

**ABSTRACT**

A system and method for providing concurrent transmission in a wireless Local Area Network (WLAN) are provided. The WLAN includes a plurality of stations for transmitting  
5 information via an assigned TDM time slot, and an access point in communication with the stations for monitoring access control and providing time allocation to allow data exchange between multiples pairs of stations, without the intervention of the access point. For establishing concurrent transmission, the access point periodically broadcasts a signal message to the stations over a wireless communication channel to determine pairs of stations that are  
10 hidden from each other based on the interference power level reported by each station.